Claims

1. Highly dynamic valve servocontrol device (1) with a bushing (3) exhibiting control edges and contained in a main body (2), and a slide valve (4) exhibiting control edges and contained in the main body (2), wherein at least one of the control edges (5) of the slide valve (4) can slide with respect to a control edge (5) of the bushing (3), wherein the slide valve (4) and also the bushing (3) are embodied such that they are oppositely slidable to one another and can be moved relative to the main body (2), wherein the valve servocontrol device (1) comprises a primary drive device (10) and a high frequency drive device (14), wherein the primary drive device (10) comprises at least one pilot valve (12) which can influence the movement of the bushing (3) or slide valve (4), **characterised in that** the high frequency drive device (11) comprises a piezoelement (13) or a plunger coil.

2. Highly dynamic valve servocontrol device (1) according to Claim 1, **characterised in that** the valve servocontrol device (1) comprises a bushing position determining device (6) for determining a position of the bushing (3) in relation to a position of the slide valve (4).

3. Highly dynamic valve servocontrol device (1) according to Claim 2, **characterised in that** the bushing position determining device (6) comprises an eddy current sensor (7).

4. Highly dynamic valve servocontrol device (1) according to one of the Claims 1 to 3, **characterised in that** the valve servocontrol device (1) exhibits an absolute position determining device (8) for the determination of the position of the bushing (3) and slide valve (4) in relation to the main body (2).

5. Highly dynamic valve servocontrol device (1) according to one of the Claims 1 to 4, **characterised in that** the bushing position determining device (6) or the absolute position determining device (8) comprises an eddy current sensor, a Hall effect sensor (9) or an inductive displacement transducer (LVDT).

6. Highly dynamic valve servocontrol device (1) according to one of the Claims 1 to 5, **characterised in that** the valve servocontrol device (1) comprises at least one pilot valve (12) controlling the movement of the bushing (3) or comprises a pilot valve (12) controlling the movement of the slide valve (4).

7. Highly dynamic valve servocontrol device (1) according to one of the Claims 1 to 6, **characterised in that** the high frequency drive device (11) controls at least one movement of the bushing (3).

8. Highly dynamic valve servocontrol device (1) according to one of the Claims 1 to 7, **characterised in that** the high frequency drive device (11) exhibits a high inherent dynamic response and a low stroke, and that the primary drive device (10) exhibits a low inherent dynamic response and a large stroke.

9. Highly dynamic valve servocontrol device (1) according to one of the Claims 1 to 8, **characterised in that** the high frequency drive device (11) exhibits a low inherent dynamic response and a large stroke, and that the primary drive device (10) exhibits a high inherent dynamic response and a low stroke.

Replaced by Art 19.

Claims

1. Highly dynamic valve servocontrol device (1) with a bushing (3) exhibiting control edges and contained in a main body (2), and a slide valve (4) exhibiting control edges and contained in the main body (2), wherein at least one of the control edges (5) of the slide valve (4) can slide with respect to a control edge (5) of the bushing (3), **characterised in that** the slide valve (4) and also the bushing (3) are embodied such that they are oppositely slidable to one another and can be moved relative to the main body (2).

2. Highly dynamic valve servocontrol device (1) according to Claim 1, **characterised in that** the valve servocontrol device (1) comprises a bushing position determining device (6) for determining a position of the bushing (3) in relation to a position of the slide valve (4).

3. Highly dynamic valve servocontrol device (1) according to Claim 1 or 2, **characterised in that** the bushing position determining device (6) comprises an eddy current sensor (7).

4. Highly dynamic valve servocontrol device (1) according to one of the Claims 1 to 3, **characterised in that** the valve servocontrol device (1) exhibits an absolute position determining device (8) for the determination of the position of the bushing (3) and slide valve (4) in relation to the main body (2).

5. Highly dynamic valve servocontrol device (1) according to one of the Claims 1 to 4, **characterised in that** the bushing position determining device (6) or the absolute position determining device (8) comprises an eddy current sensor, a Hall effect sensor (9) or an inductive displacement transducer (LVDT).

6. Highly dynamic valve servocontrol device (1) according to one of the Claims 1 to 5, **characterised in that** the valve servocontrol device (1) comprises a primary drive device (10) and / or a high frequency drive device (14).

7. Highly dynamic valve servocontrol device (1) according to one of the Claims 1 to 6, **characterised in that** the primary drive device (10) comprises at least one pilot valve (12) influencing the movement of the bushing (3) or the slide valve (4).

8. Highly dynamic valve servocontrol device (1) according to one of the Claims 1 to 7, **characterised in that** the valve servocontrol device (1) comprises at least one pilot valve (12) controlling the movement of the bushing (3) and a pilot valve (12) controlling the movement of the slide valve (4).

9. Highly dynamic valve servocontrol device (1) according to one of the Claims 1 to 8, **characterised in that** the valve servocontrol device (1) comprises at least one high frequency drive device (11).

10. Highly dynamic valve servocontrol device (1) according to one of the Claims 1 to 9, **characterised in that** the high frequency drive device (11) comprises a piezoelement (13) or a plunger coil.

11. Highly dynamic valve servocontrol device (1) according to one of the Claims 1 to 10, **characterised in that** the high frequency drive device (11) controls at least one movement of the bushing (3).

12. Highly dynamic valve servocontrol device (1) according to one of the Claims 1 to 11, **characterised in that** the high frequency drive device (11) exhibits a high inherent dynamic response and a low stroke, and that the primary drive device (10) exhibits a low inherent dynamic response and a large stroke.

13. Highly dynamic valve servocontrol device (1) according to one of the Claims 1 to 12, **characterised in that** the high frequency drive device (11) exhibits a low inherent dynamic response and a large stroke, and that the primary drive device (10) exhibits a high inherent dynamic response and a low stroke.